

CLAIMS

What is claimed is:

1. A method of determining whether a stimulus is capable of activating a candidate cis-
5 acting regulatory element in an immunocyte, wherein said cis-acting regulatory
element is regulated by at least one transcription factor or enhancer, and wherein said
stimulus is known to modulate expression of a signaling pathway, said method
comprising the steps of:
 - (a) transfecting said immunocyte with a recombinant adenovirus, said recombinant
10 adenovirus comprising a reporter gene operatively linked to said candidate cis-
acting regulatory element;
 - (b) measuring a base level of reporter gene activity;
 - (c) applying said stimulus to said immunocyte; and
 - (d) measuring reporter gene activity in response to said stimulus.
- 15 2. The method of Claim 1 wherein said stimulus comprises modulating expression of a
regulatory protein and said applying step (c) comprises modulating the expression of
said regulatory protein.
- 20 3. The method of Claim 2 further comprising the step of co-transfecting said immunocyte
with an expression system for said regulatory protein.
4. The method of Claim 1 wherein said applying step (c) comprises introducing a
candidate regulatory compound.
- 25 5. The method of Claim 1 wherein said reporter gene is selected from the group
consisting of: luciferase, green fluorescent protein ("GFP"), β -galactosidase ("GAL"),
chloramphenicol acetyltransferase ("CAT").
- 30 6. The method of Claim 1 wherein said reporter gene is a suppressor gene.
7. The method of Claim 6 wherein said suppressor gene is IkBsd.

8. The method of Claim 1 wherein said cis-acting regulatory element is modulated by regulatory proteins related to inflammation.
9. The method of Claim 1 wherein said cis-acting regulatory element is selected from the group consisting of: AP-1, CRE, ISRE, NFAT, NFκB, and SRE.
10. The method of Claim 1 wherein said immunocyte is selected from the group consisting of: macrophage, CD4⁺ T cell, and immature dendritic cell.
11. A method of inhibiting expression of a signaling pathway in an immunocyte comprising the steps of:
- (a) transfecting said immunocyte with a recombinant adenovirus, wherein said recombinant adenovirus comprises a suppressor gene operatively linked to a cis-acting regulatory element, wherein said cis-acting regulatory element belongs to said signaling pathway; and
 - (b) inducing expression of said suppressor gene.
12. The method of Claim 11 wherein said signaling pathway is the NFκB signaling pathway.
13. The method of Claim 11 wherein said suppressor gene is IκBsd.
14. The method of Claim 11 wherein said immunocyte is selected from the group consisting of: macrophage, CD4⁺ T cell, and immature dendritic cell.